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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,371	11/03/2003	Weijia Wen	016660-183	1150

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EXAMINER

BONCK, RODNEY H

ART UNIT	PAPER NUMBER
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3681

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/698,371

Applicant(s)

WEN ET AL.

Examiner

Rodney H. Bonck

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 10-13 is/are rejected.
- 7) ☒ Claim(s) 6-9 and 14-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 05/03/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

The following is a first action on the merits of application Serial No.10/698,371, filed November 3, 2003.

### ***Information Disclosure Statement***

Receipt is acknowledged of the Information Disclosure Statement filed May 3, 2004. The cited documents have been considered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Stangroom('298). Fig. 1 of Stangroom discloses a torque transmission apparatus comprising an input coupling member 9 and an output coupling member 7, both provided within fluid housing 6. Each of the members has a cylindrical portion extending parallel to the axis of rotation. An inner surface of the cylindrical portion of member 9 is larger than an outer surface of member 7, the cylindrical portion of member 7 being received within the cylindrical portion of member 9 to define a cylindrical gap. An electrorheological fluid is provided in the gap. Means 16,17 are provided to apply an

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electric field to the electrorheological fluid. Regarding claim 2, the cylindrical inner surface of housing 6 is larger than the outer surface of the cylindrical portion of member 9 to define a further cylindrical gap, which is also filled with electrorheological fluid. Alternatively member 6 could be considered the first coupling member and the member 9 could be considered the second coupling member, wherein the inner surface of member 6 is larger than the outer surface of member 9 to define a cylindrical gap. The first coupling member is provided with an axial shaft 7 having a diameter smaller than in the inner surface of second coupling member 9 defining a further axial gap that is filled with electrorheological fluid, as called for in claim 3 of the instant application. With regard to claim 10, Stangroom discloses first and second coupling members 6 and 9 having cylindrical coupling surfaces defining a cylindrical gap. Electrorheological fluid is provided in the gap and means 16,17 are provided to selectively apply an electric potential to the coupling members.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4, 5, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stangroom in view of Carlson et al.('754). The Stangroom device does not show a separate filling aperture for filling the housing with electrorheological fluid. The Carlson et al. device is an electrorheological clutch or brake having a housing 18, which is provided with a filling aperture 20. It would have been obvious to provide a filling aperture in the Stangroom device, the motivation being to facilitate introduction of electrorheological fluid into the housing. Stangroom also lacks the magnetic coupling between an input drive shaft and the first coupling member. The Carlson et al. device provides disk 38 with magnets 44 and disk 36 with magnets 46 to provide a magnetic coupling between the external drive shaft and the first coupling member. It would have been obvious to provide such a coupling in Stangroom, the motivation being to eliminate the need for a rotating seal. In providing such a coupling in Stangroom, it would further have been obvious to provide one of the sets of magnets as an electromagnetic coil in order to permit selective coupling.

***Allowable Subject Matter***

Claims 6-9 and 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Carlson('513) is cited to show an electrorheological coupling with a housing 52 having a filling aperture 64 (Fig. 2). Carlson('593), Bansbach('753), Leeper(US 2001/0041637 A1), Edmondson et al.('905), Moser et al.('918), Wendt et al.('336), and Henson('348) show other electro- or magneto-rheological devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney H. Bonck whose telephone number is (703)-308-2904. The examiner can normally be reached on Monday-Friday 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (703)-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rodney H. Bonck  
Primary Examiner  
Art Unit 3681

rhb  
January 5, 2005